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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/833,183

Filing Date: ***

Appellant(s): HINKLE ET AL

Gordon K. Harris, Jr.
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 06/05/2007 appealing from the Office action mailed 11/14/2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

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(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5,255,324	BREWER ET AL	10-1993
5,633,940	WASSINK	05-1997

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brewer (US Patent 5,255,324) in view of Wassink (US Patent 5,633,940).

Regarding Claims 1 and 8, Brewer discloses an audio distortion processing system comprising: a first processing unit (Fig. 1, 15) adapted to be in communication with an audio source (13) wherein said first processing unit controls a plurality of parameters (Brewer discloses volume and bass parameters; Column 4, lines 12-16); a power amplifier (16 and 17) in electrical communication with said first processing unit for

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receiving an output signal of said first processing unit, said power amplifier selectively generating a clipping signal (signal to 18), said power amplifier adapted to be in communication with at least one speaker (20 through 23); a second processing unit in electrical communication with said power amplifier (10) and said first processing unit (15) for receiving said clipping signal from said power amplifier (signal from 18 to 10) and sending a control signal to said first processing unit (14); a plurality of inputs in communication with said second processing unit (panel 11), said plurality of inputs respectively indicating values of said plurality of parameters (Col. 4, lines 7-9); and an incremental reduction in a level of a first parameter of said plurality of parameters (Fig. 2, steps 25, 26, 27, 28, and 29) until one of either said clipping signal recedes or a reduction limit of said first parameter is achieved (step 26 bass is not over reference) and then incremental reduction in a level of a second parameter of said plurality of parameters (steps 25, 26, 30, 31, and 32) if a reduction limit of said first parameter is achieved and said clipping signal persists (limit signal 25) (as per claim 1). And Brewer discloses a method for controlling distortion in an audio system (Figure 1) having first (bass) and second (volume) parameters (Brewer discloses volume and bass parameters) (Column 4, lines 9-12) wherein each of said parameters is a function of an operator input (Brewer discloses switches controlling volume and bass through microcontroller 10) (Column 4, lines 7-12), said method comprising the steps of: determining a reduction limit of said first parameter (Brewer discloses a predetermined reference level, i.e. reduction limit, in step 26) (Column 4, lines 52-53), determining a reduction limit of said second parameter (Brewer discloses reduction of wideband gain,

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i.e. volume, is stopped when clipping distortion falls below the predetermined threshold (i.e. reduction limit of second parameter) (Column 5, lines 22-32); detecting a clipping signal in said audio system (Brewer discloses clip signal from amp 16 to interface 18); incrementally reducing a level of said first parameter until one of either said clipping signal recedes or said reduction limit of said first parameter is achieved (Brewer discloses Figure 2, steps 25-29, which discloses reducing level of the bass signal until no clipping (step 25) is present or reference is reached in step 26); incrementally reducing a level of said second parameter if said reduction limit of said first parameter is achieved and said clipping signal persists (Brewer discloses Figure 2 steps 30-32 where volume is reduced when bass is over reference value in step 26) (as per claim 8). Brewer discloses fully incrementally recovering the bass and then volume parameters in steps 33 through 41, but does not disclose recovering first parameter (bass) if said original level of second parameter (volume) is fully recovered and said clipping signal is not detected in the audio distortion processing system or method as discussed above.

Wassink also discloses detection of a clipping signal by a controller (5) and control panel 6 which also provides user control of bass and volume (Col. 3, lines 35-40) and that first the bass setting can be reduced then the volume setting (Col. 5, lines 50-53). Wassink further discloses once clipping is not detected volume and bass settings can be increased in a reverse order to the order in which the setting have been reduced (Paragraph bridging columns 5 and 6). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the audio distortion processing system or method of Brewer by providing parameters (i.e., bass

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and volume setting parameters) recovery in reverse order as disclosed by Wassink in order to provide a maximum audio output and avoid output signals distortion.

Regarding Claim 2, Brewer further discloses that the reference level (i.e. reduction limit) is a function of a first input (i.e. function of an operator input) (Column 4, lines 52-53).

Regarding Claim 3, Brewer discloses a system as stated apropos of claim 1 above but does not disclose the reduction limit of said first parameter is equal to one half of said original level of said first parameter. Wassink also discloses detection of a clipping signal by a controller (5) and control panel 6 which also provides user control of bass and volume (Col. 3, lines 35-40) and that first the bass setting can be reduced then the volume setting (Col. 5, lines 50-53). Wassink further discloses the selection criterion for the on whether the next adjustment is to be a volume setting or a bass setting depends on levels set by the user (Col. 5, lines 44-50). Therefore, it would have been obvious at the time the invention was made for the reduction limit to equal half of an operator selectable first parameter level as a matter of design choice.

Regarding Claim 4, Brewer further discloses said reduction limit of said second parameter is a function of said reduction limit of said first parameter (Figure 2, step 26 discloses second parameter is not reduced until first parameter, steps 27 and 28, are reduced to predetermined limit, i.e. second parameter is a function of predetermined limit of first parameter).

Regarding claim 5, Brewer further discloses a reduction limit of said second parameter (Volume) is equal to the difference between a maximum reduction limit of

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said second parameter (It is inherent that the maximum reduction limit of second parameter (Volume) is zero since a negative volume level is not possible) and said reduction limit of said first parameter (Brewer discloses in Figure 2, step 26 that the volume will not be reduced until the bass in steps 26-29 reach a predetermined limit (i.e. reduction limit of first parameter). It is at this point where the second parameter sill start to be reduced, therefore the limit.)

Regarding Claim 6, Brewer further discloses first parameter is a bass (Fig. 2, step 28) and a corresponding first input of the plurality of inputs is a operator selectable bass boost (Col. 4, lines 7-12)

Regarding Claim 7, Brewer further discloses the second parameter is volume (Fig. 2, step 31) and a corresponding second input of the plurality of inputs is operator selectable volume level (Col. 4, lines 7-12).

Regarding Claim 9, Brewer further discloses said first parameter is a bass parameter and said second parameter is a volume parameter (Figure 2, Steps 28 and 31).

Regarding Claim 10, Brewer further discloses that the reference level (i.e. reduction limit) is predetermined (i.e. function of an operator input) (Column 4, lines 52-53).

Regarding Claim 11, Wassink further discloses the selection criterion for the on whether the next adjustment is to be a volume setting or a bass setting depends on levels set by the user (Col. 5, lines 44-50). Therefore, it would have been obvious at the

time the invention was made for the reduction limit to equal half of an operator selectable first parameter level as a matter of design choice.

Regarding Claim 12, Brewer further discloses said reduction limit of said second parameter is a function of said reduction limit of said first parameter (Figure 2, step 26 discloses second parameter is not reduced until first parameter, steps 27 and 28, are reduced to predetermined limit, i.e. second parameter is a function of predetermined limit of first parameter).

Regarding claim 13, Brewer further discloses said reduction limit of said second parameter (Volume) is equal to the difference between a maximum reduction limit of said second parameter (It is inherent that the maximum reduction limit of second parameter (Volume) is zero since a negative volume level is not possible) and said reduction limit of said first parameter (Brewer discloses in Figure 2, step 26 that the volume will not be reduced until the bass in steps 26-29 reach a predetermined limit (i.e. reduction limit of first parameter). It is at this point where the second parameter will start to be reduced, therefore the limit.)

(10) Response to Argument

Applicant's arguments filed 06/05/2007 have been fully considered but they are not persuasive.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention

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where there is some teaching, suggestion, or motivation to do so found either in the references themselves **or in the knowledge generally available to one of ordinary skill in the art.** See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, both Brewer et al and Wassink disclose digitally controlled audio amplifier arrangement in the field of audio signal processing. The motivation for combining Brewer et al and Wassink would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the audio distortion processing system or method of Brewer with the teaching of Wassink in order to provide a maximum audio output and avoid output signals distortion, as discussed in the rejection above. Clearly, the teaching, suggestion, or motivation to do so is within the knowledge generally available to one of ordinary skill in the art when the references of Brewer et al and Wassink are being available to him/her.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Regarding applicant's arguments on Page 5, 3rd Paragraph of the Brief, it's deemed the argument fail to comply with 37 CFR 1.111(b) because they amount to a

general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references. Furthermore, in response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

As these are the totality of arguments presented, and they have been found unpersuasive, the existing rejection is deemed appropriate.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

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For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,



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PRIMARY EXAMINER

09/15/2007



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